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(54) SINTERING MATERIAL FOR TOOL

(57)Abstract:
PURPOSE: To improve wear resistance particularly at high temp. by mixing granular cubic boron nitride, titanium nitride, and a granular mixture of aluminum oxide and zirconium oxide in specific proportions.
CONSTITUTION: This sintering material has a composition which consists of 40-70vol.% granular cubic boron nitride, 15-45vol.% titanium nitride to be an essential component of a binding phase, and 15-25vol.% of granular mixture of aluminum oxide and zirconium oxide to be accessory component of the binding phase and in which the accessory component of the above-mentioned binding phase consists of 95-99vol.% aluminum oxide and 1-5vol.% zirconium oxide. By using the above-mentioned sintering material, the holding capacity of CBN grain in the binding phase is improved as compared with conventional one, wear resistance particularly at high temp. is improved, and also chipping resistance is improved owing to the sound sintered compact since a binder composed essentially of TiN having high hardness at high temp. and incorporating alumina/zirconia excellent in sintering characteristics as subcomponent is used.

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